

A Lesson Plan—"Celebrating Trees"

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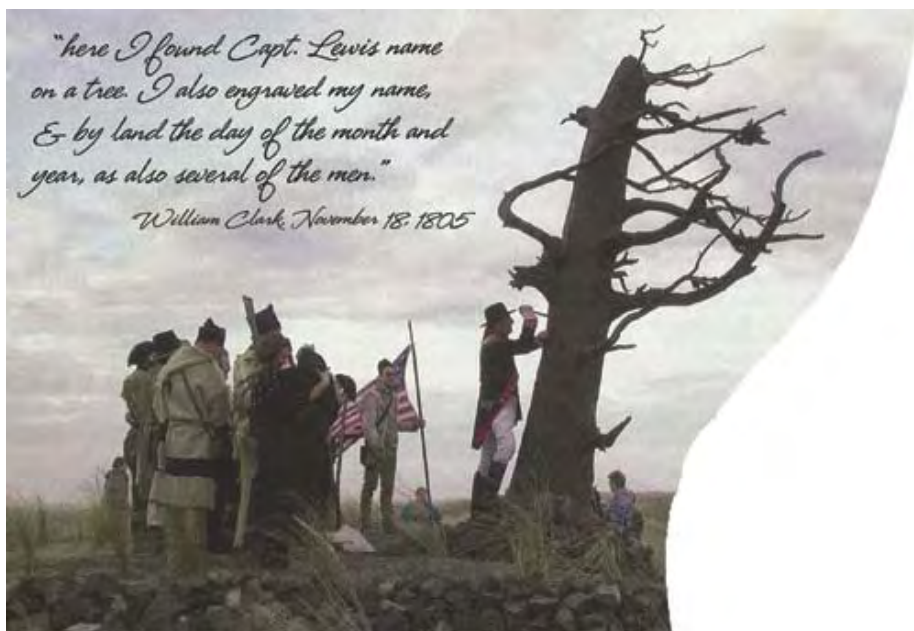
Users and Uses:

Thomas Jefferson—"Founder of American Forestry" - "America's First Gardner"

During 60 years of Jefferson's residence at Monticello, his interest in gardening arose from a wide-eyed curiosity about the natural world. *"There is not a sprig of grass that shoots that is not interesting to me."* Jefferson ranked trees at the top of his hierarchy of favorite green plants. Trees lined his 5,000 acre plantation. Visitor tours included a survey of what one guest described as Jefferson's "pet trees." While serving as Minister to France, 1784-1789, Jefferson proudly distributed seeds of North American trees to friends in Europe.

Two months before his death at age 83, he designed an arboretum for the University of Virginia. Such an epilogue to years of planting at Monticello was perhaps inspired by Jefferson's own adage, *"too old to plant trees for my own gratification I shall do it for posterity."*

A champion of exploration, Jefferson sponsored the Lewis & Clark Expedition, choosing Meriwether Lewis because of Lewis' passion for discovering new plants!



Curriculum: A Lesson on Identification of Trees

A variety of techniques are used to identify plants, among them a KEY procedure, a method for making preliminary taxonomy determinations. An introduction to this technique can be found in "Trees & Shrubs in Montana," Bulletin 323, Montana State University Extension Service. A similar procedure is described in "Rocky Mountain Tree Finder" by Wattsalso, "How to Identify Plants" by Harrington and Durell.

Trees

by Joyce Kilmer

I think that I shall never see
A poem lovely as a tree.

A tree whose hungry mouth is pressed
Against the earth's sweet flowing breast.

A tree that looks at God all day
And lifts her leafy arms to pray.

A tree that may in summer wear
A nest of robins in her hair.

Upon whose bosom snow has lain
Who intimately lives with rain.

Poems are made by fools like me,
But only God can make a tree.

Tree Verse

Brainstorm a list of 15 adjectives which could describe a tree or a forest. Do the same with verbs. Arrange words from lists into poems in the form of free verse, haiku, cinquain.

Japanese **Haiku**, consists of 3 lines of five....7 and 5 syllables each...syllabic, not rhyming.

Examples: The snow covered tree
 Sparkles in the soft moonlight
 The wind rushes by

Cinquain is derived from the French and Spanish words for 5. This form of poetry also is based on syllables, but with 5 lines.

Line 1=title, 2 syllables
Line 2=description of title in 4 syllables
Line 3=description of action in 6 syllables
Line 4=feelings in 8 syllables
Line 5=another word for the title, 2 syllables

Forests

Graceful, growing
Climb among the clouds
Joyfully stalking the sunset
Alive



Journal Quote

9-16-'05 (description)

"A thickly timbered country of 8 kinds of pine which are covered with snow that we are passing through and we are continuously covered by wet snow. I am as wet and cold in every part as I ever was in my life. Indeed, I was at one time fearful of my feet would freeze in these mockersons which I wear."

—Clark in the Bitterroot

Cutright's "Pioneering Naturalists"

Along the Lolo Trail, much of the virgin forest present when Lewis & Clark struggled through it, still stands, unscarred and unspoiled. The traveler who crosses the Lolo motorway today may view many of the same trees that the explorers gazed upon so many years ago. Since 1805, they have added more than 160 rings of growth to their trunks and have extended their tops higher.

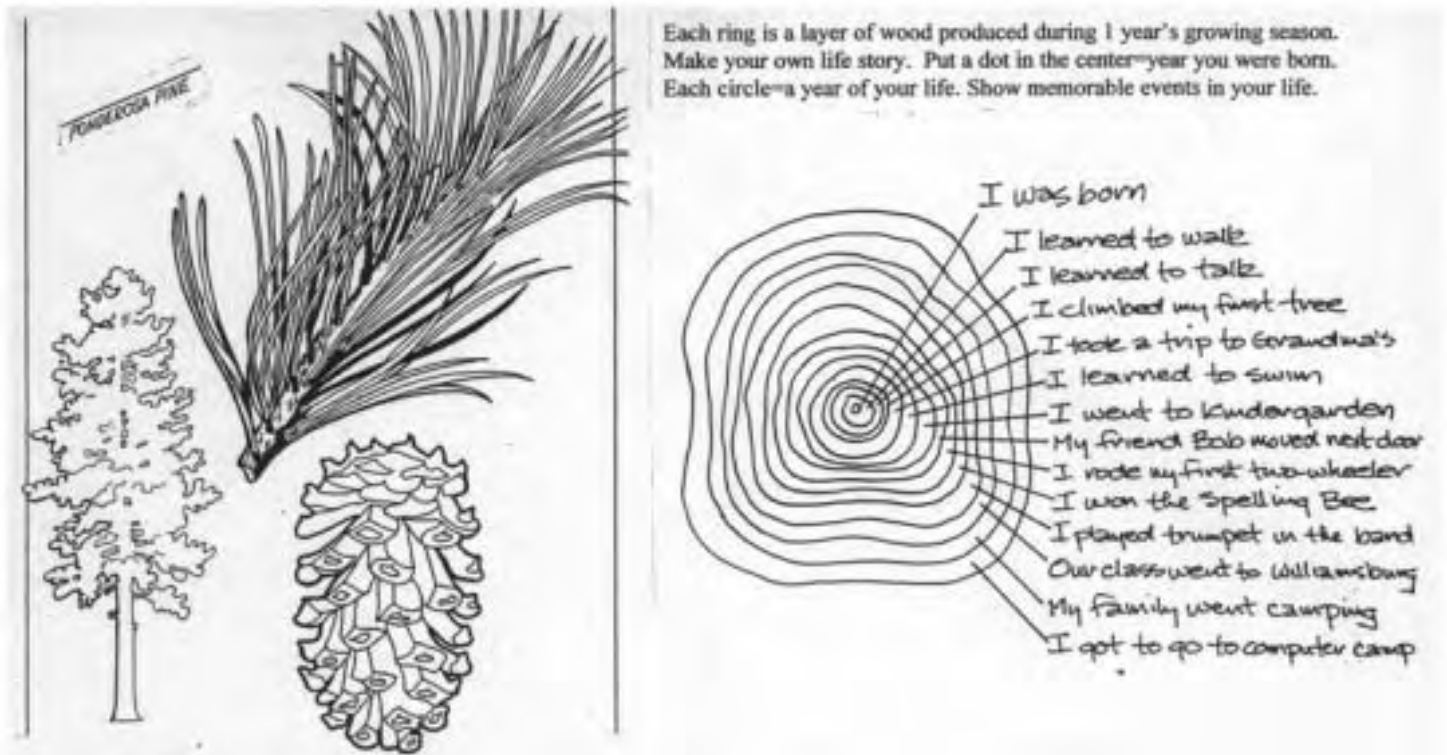
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The more important trees, constituting the Clearwater Forest, then and now, are evergreens. (Ponderosa pine, Grand fir, Western larch, Western white pine, Englemann's spruce, Lodgepole pine, Alpine fir and Whitebark pine.)

Loading their horses with obtainable food, they continued to the Clearwater where Clark had found Twisted Hair and then 5 miles downstream to the mouth of the North Fork of the Clearwater. Here, on the

south side of the main stream where Clark located a number of large ponderosa pines, they established Canoe Camp. At once, according to Whitehouse, "we went about heaving our axes and git in readiness to begin the canoes."

—Page.217



"OBSERVE, DESCRIBE, DOCUMENT" - WORDS USED BY JEFFERSON IN HIS CHARGE TO LEWIS AND CLARK.

Curriculum Activities, Ideas & Fun

BARK RUBBINGS:

- ✓ Use them as art or compare them to different trees.....
- ✓ Make a bark and leaf rubbing of it using the crayon and paper by rubbing the crayon over the paper against the tree bark or leaf (vein side up). How is the bark like or different from your skin?
- ✓ Make a bulletin board of rubbings. Use a Tree Key to find the names of your classmates' trees.

LEAF PRINTS:

- ✓ Materials: leaves, cardboard, spray paint, crayons, Ozalid paper, household ammonia, jar.
- ✓ Pin leaves to cardboard and spray the leaves. Using Ozalid (photo sensitive) for prints. Leaf is put on this paper, then the paper is exposed to the sunlight for 15 seconds. Next, remove the leaf and set the print in a gallon container. Put a small jar which is filled with household ammonia inside the large container. Leave the jar with ammonia open. The fumes of the ammonia will set the print. Cover for several minutes. Be sure to be very careful when using ammonia.

MINI-FOREST:

- ✓ Find some place to lie down on the ground where grass or some other plants are. Make a circle by stretching your arms out in front of you on the ground. Looking into the area within your arms, try to find 5 different plants inside the circle. Can you find any tiny animals crawling in your mini-forest? Can you find any examples of things that are growing or things that are dead? Any examples of things changing? Can you look away down in the grass *and describe* what you see? Share your discoveries.

GROW A TREE:

- ✓ Help cool the planet by planting a tree.
- ✓ At the end of summer or early fall, scout out trees that may have dropped cones with seeds. Or, call your local forest products industry for information on how to obtain seeds. Take the seeds and place them in moist toweling. The best time to begin this is in winter near spring, which makes the seed germination near its normal season cycle. Keep the toweling damp and check the moisture daily. Watch for germination of the seed. When the root begins to poke itself through the seed, it is time to plant your tree. Place seed about 1/2 inch from the surface in a cup of dirt. Make sure the cup has a hole in the bottom for adequate drainage. How long (keep track) does it take your tree to sprout? After a year, how much has your tree grown? How long does it take a tree to grow before it is used for lumber? What do you have in your house that took trees to make?

The Ponderosa Pine

Have you ever considered eating a Pine Tree? Perhaps not, but long ago Indians in our Montana region regularly peeled the bark to eat as a sweet, delicious food.

As early as 1805, Sacagawea told Lewis and Clark that certain species of trees had edible barks and Indians cherished them as food. While the Expedition was camped on Lolo Creek, they recorded, "the Indians have peeled a number of Pine for the under bark which they eat at certain seasons of the year. I am told that in the spring, they make use of this bark."

Indian women employed a special tool to remove the bark from the tree trunks. It was usually a wooden stick, which they flattened at one end as a chisel. They also used the rib bone of an elk or bison as a debarking tool.

Flathead Indians used the Ponderosa as a medicine, reputedly to cure boils. Captain Lewis made a similar use of this medicine for an abscess when the Expedition's drug supplies ran low. On June 5, 1806, his journal read, "I applied a plaster of salve made of the resin of the long-leaved pine, bees wax and bear's oil mixed, which has subsided the inflammation entirely."

For the sake of vanity, Cheyenne Indians plastered their hair in place with the same pitch and also in the making of bone and wooden whistles and flutes.



Nez Perce and Crow Indians used it as glue and they made torches with this pitch and burned it to give light to their homes.

Named for its ponderous size, the Ponderosa Pine was first encountered by Lewis and Clark on some bluffs covered with this pine near Ft. Peck (5-11-1805). Clark brought some boughs to Lewis who examined them closely. He thought at first it was the Pitch Pine that he often saw back in Virginia. Upon further examination, Lewis noticed that these needles were longer and had 3 needles per cluster. This species was **new** to him and he wrote about it in his journal. Later, botanists called this species, *Pinus ponderosa*.

As the Expedition neared Three Forks (7-23-1805) Sacagawea recognized the landscape as the place where she had been captured by the Hidatsas five years earlier. Then it was that Lewis saw those same trees stripped of their bark. Sacagawea explained that this operation had been performed by Indians to obtain the soft inner bark for food, eaten by Indians in times of famine. They also roasted the seeds, as they are quite nutritious.

Later, the Expedition used the Ponderosa for shaping their dugout canoes...also for paddles, and wheels and wagons to haul the canoes around the Great Falls.

In 1908, in Helena, Montana's school children held a citywide vote to see which tree best represented Montana. The PONDEROSA PINE won!

In 1949, the Legislature agreed that the **PONDEROSA was the King of the Forest!**

For further information on Arbor Day:

<http://dnrc.state.mt.us/forestry/ServiceForestry/CommunityForestryManagement/index.htm>

Trees Teach

It's
important
to have roots.
In today's
complex world, it pays
to branch out. Don't
pine away over old flames.
If you really believe in something,
don't be afraid to go out on a limb!
Be flexible so you don't break when a harsh
wind blows. If you want to maintain accurate
records, keep a log. To be politically correct, don't
wear firs. Grow where you're planted. It is perfectly
okay to be a late bloomer. Avoid people who like to
cut you down. Get all spruced up for a hot date.
If the party gets boring, just get up and leaf.
It's more important to be honest than poplar.
Be sure to cover your bare ash in the winter.
As you approach the autumn of your life,
You can't hide your true colors.

EVERYTHING I NEED TO KNOW I LEARNED FROM TREES

Attention Fifth Grade Teachers!

The National Arbor Day Poster Contest deadline is
February 25, 2005!

In fall 2004, fifth grade students were invited to participate in the National Arbor Day Foundation's annual poster contest with the theme, *Trees are Terrific ... and Energy Wise!*

Every school that submits a poster will receive a *Lewis & Clark Ponderosa pine seedling* to plant at their school in celebration of Arbor Day and the Lewis & Clark Bicentennial.

Additionally, the Montana Lewis & Clark Bicentennial Commission has created a curriculum on the plants studies and described by Lewis & Clark on their journey across Montana which is available on the Office of Public Instruction's (OPI) Web site located at: www.opi.state.mt.us/Lewis&Clark.